

Managing Chesapeake Bay's Land Use, Fish Habitat, and Fisheries

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Land-use influences fish habitat and fisheries in Chesapeake Bay. The fall of Chesapeake Bay striped bass in the 1970's - 1980's and subsequent rise followed larval survival and fishing mortality. Sustained low larval survival occurred in the mid-1970s through the early 1980s. Rising larval survival afterward coincided with growth of watershed-wide agricultural conservation programs that may have reduced toxicity of larval habitat and complemented stock improvements from reduced fishing mortality. Development (measured as impervious surface) of watersheds from rural (<5% impervious surface) to suburb (>10%) is associated with multiple stressors of fish habitat that reduce egg and larval viability, and available habitat for juvenile and adult fish. While small subestuaries have been impacted by development so far, remaining watersheds will become increasingly influenced in the future. We need to recognize that land use creates habitat conditions that preclude effectiveness of fishery regulations. Currently, regulation of land-use and stressors associated with it is scattered among local, state, and federal agencies. Fisheries managers will need to join with these agencies to preserve watersheds, restore watersheds with manageable damage, and steer growth to less valuable watersheds.